

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (canceled).

2. (currently amended): ~~The method according to claim 1,~~ A polarization inversion method for ferroelectrics, comprising the steps of:

forming a plurality of electrodes on a first surface of a ferroelectric crystal that has been subjected to a single polarization, the electrodes having a predetermined pattern;

forming a local polarization inversion portion in said ferroelectric crystal by applying an electric field to front and back surfaces of said ferroelectric crystal;

wherein first portions of said ferroelectric crystal, each corresponding to a corresponding one of the electrodes and second portions between the first portions are subjected to a polarization inversion, and one polarization inversion portion having a desired pattern is formed;
and

wherein one polarization inversion portion is formed for each of the electrode groups
group of electrodes by use of periodic electrodes in which a plurality of electrode groups composed of the electrodes are periodically formed as said electrodes, thus forming a periodic

polarization inversion structure in which the polarization inversion portion is periodically formed.

3. (currently amended): The method according to claim 2, wherein a corona wire is disposed on a second surface of said ferroelectric crystal opposite to said first surface thereof, and said electric field is applied to said ferroelectric crystal by corona charging by use of said corona wire and said electrodes.

4. (original): The method according to claim 2, wherein a corona wire is disposed on a second surface of said ferroelectric crystal opposite to said first surface thereof, and said electric field is applied to said ferroelectric crystal by corona charging by use of said corona wire and said electrodes.

5. (currently amended): The method according to claim 2, wherein said ferroelectric crystal is a $\text{LiNb}_x\text{Ta}_{1-x}\text{O}_3$ ($0 < x < 1$) crystal or a crystal doped with one of MgO, ZnO and Sc.

6. (original): The method according to claim 2, wherein said ferroelectric crystal is a $\text{LiNb}_x\text{Ta}_{1-x}\text{O}_3$ ($0 < x < 1$) crystal or a crystal doped with one of MgO, ZnO and Sc.

7. (original): The method according to claim 3, wherein said ferroelectric crystal is a $\text{LiNb}_x\text{Ta}_{1-x}\text{O}_3$ ($0 < x < 1$) crystal or a crystal doped with one of MgO, ZnO and Sc.

8. (original): The method according to claim 4, wherein said ferroelectric 15 crystal is a $\text{LiNb}_x\text{Ta}_{1-x}\text{O}_3$ ($0 < x < 1$) crystal or a crystal doped with one of MgO, ZnO and Sc.

9. (currently amended): A method of fabricating an optical wavelength conversion device using the polarization inversion method of ~~ferroelectric~~ ferroelectrics according to one of claims 2 to 8, the method comprising the steps of:

using a nonlinear optical crystal as the ferroelectric crystal that has been subjected to the single polarization; and

forming in said nonlinear optical crystal ~~the~~ a periodic polarization inversion structure corresponding to a periodic pattern of ~~the~~ electrode groups.